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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,273	11/17/2000	Govind Malalur	108339-09059	5515

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EXAMINER

AL HASHEMI, SANA A

ART UNIT PAPER NUMBER

2164

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/714,273

Applicant(s)

MALALUR, GOVIND

Examiner

Sana Al-Hashemi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is issued in response to applicant's amendment filed 9/1/05.
2. Claims 1-15 were amended. No Claims were deleted. None were added.
3. Claims 1-15 are pending.
4. Applicant's arguments filed 9/1/05 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-9, and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spinney (US Patent No. 5,414,704) in view of Douceur (US Patent No. 6,067,547).

Regarding Claims 1, 8, and 15, Spinney discloses a method of performing a table look-up in a network device comprising the steps of:

receiving a data packet through an input port of the network device (Col. 6, lines 14-17, Spinney);

parsing said data packet into an index portion (Col. 6, lines 17-21, Spinney), and

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a corresponding bucket portion (Col. 6, lines 50-58, Spinney);

accessing address table information stored in an address look-up table (Col. 7, lines 58-66, Spinney), using said bucket portion (see column 7, lines 10-17, Spinney);

Spinney discloses all the limitation subject matter. However, Spinney is silent with respect to the step indexing, directly, said index portion to said corresponding bucket portion. On the other hand Douceur at column 18, lines 21-26, refers to indexing, directly, said index portion to said corresponding bucket portion. It would have been obvious to one of ordinary skill in the art at the time of the invention to directly index the index portion corresponding to the bucket portion, skilled artisan would have been motivated to modify the Spinney system to avoid the cost of scanning through the list and if the number of arrays need to grow beyond this number then a larger array must be allocated and the pointer copied to the new array as suggested by Douceur, and to improve the use of the system in increasing the memory space by organizing the segment which will help searching, storing and retrieving the data based on the size of each indexed bucket; and

Regarding Claims 2, and 9, Spinney in view of Douceur discloses a method wherein said step of indexing said index portion to said bucket portion is the step of linearly indexing said index portion to said bucket portion (Fig. 6, 90, 92, 93, Spinney).

Regarding Claims 4, and 11, Spinney in view of Douceur discloses a method further comprising the step of sorting said bucket portion (Fig. 5, Spinney).

Regarding Claims 5, and 12, Spinney in view of Douceur discloses a method further comprising the step of binary sorting said bucket portion (Col. 9, lines 17-22, Spinney).

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Regarding Claims 6, and 13, Spinney in view of Douceur discloses a method wherein the step of parsing said data packet into an index portion and a corresponding bucket portion further comprises the step of parsing said index portion so that said index portion will recur when other data is parsed into said index portion and said corresponding bucket portion (Col. 7, lines 10-31, Spinney).

Regarding Claims 7, and 14, Spinney in view of Douceur discloses a method further comprising the step of storing information regarding said data in said address look-up table as table information when no table information is available using said bucket portion to access table information (Col. 8, lines 46-50, Spinney).

Claims 3, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spinney (US Patent No. 5,414,704) in view of Douceur (US Patent No. 6,067,547) and further in view of Moreton (US Patent No. 5,506,624).

Regarding Claims 3, and 10, Spinney in view of Douceur discloses all the limitations subject matter as stated above except the method wherein said step of indexing said index portion to said bucket portion is the step of XOR indexing said index portion to said bucket portion. However, Moreton on the other hand teaches the method of using the XOR in a lookup hash table (Col. 9, lines 7-22, Moreton). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the XOR method in organizing the bits in a hash table with the motivation of providing an operation logical for combining two bits if one or both

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values are true, which reduce the amount of time and process to complete a table of only on bits is checked every time in hash table.

Response to Amendment

Applicant argued that the prior arts applied “indexing directly, said index portion to said corresponding bucket portion.”

Examiner respectfully disagrees. The Spinney disclose the method of indexing portion to said corresponding bucket portion, Spinney does not clearly directly index the portion to said corresponding bucket portion, Douceur discloses that the indexing is directly complete to the pointer that corresponds to the bucket portion. The combined reference disclose the claimed limitations.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Other Prior Art Made of Record

1. Spinney (US Patent No. 5,414,704) discloses address look-up in packet data communication link, using hashing and content-addressable memory.
2. Douceur (US Patent No. 6,067,547) discloses hash table expansion and contraction for use with internal searching.
3. Warren (US Patent No. 6,690,667) discloses a switch with adaptive address lookup hashing scheme.
4. Spinney (US Patent No. 5,414,704) discloses an address lookup in packet data communications link using hashing and content addressable memory.
5. Bauman (US Patent No. 6,046,979) discloses a method and apparatus for controlling the flow of variable length packets through a multi-port switch.
6. Moreton (US Patent No. 5,506,624) discloses a rotating sample of video images.

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Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to: Sana Al-Hashemi whose telephone number is (571) 272-4013. The examiner can normally be reached on Monday - Friday from 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (571) 272-4023. Any response to this office action should be mailed to: The Commissioner of Patents and Trademarks, Washington, D.C. 20231. Or telefax at phone number (703) 872-9306. For formal or draft communications, please label "PROPOSED" or "DRAFT". Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, 6th Floor Receptionist, Arlington, Virginia. 22202.

Sana Al-Hashemi
Patent Examiner
Technology Center 2100
October 11, 2005


CHARLES RONES
SUPERVISORY PATENT EXAMINER